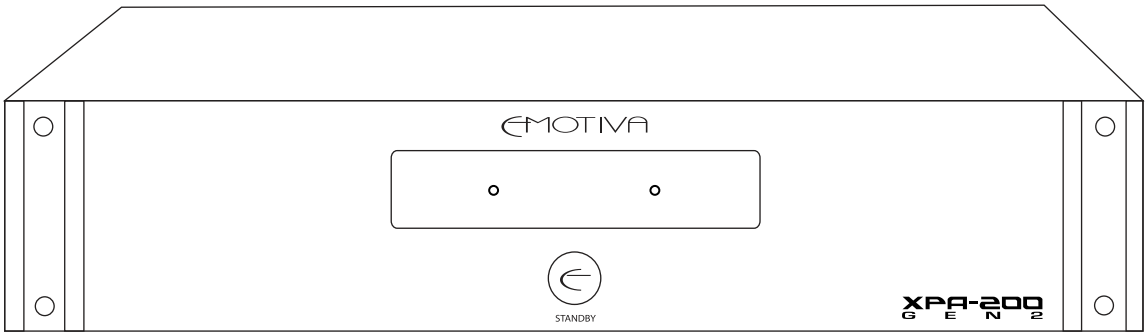
XPA-200 GEN 2

EMOTIVA®



XPA-200 GEN 2

Stereo Power Amplifier
User Manual

Important Safety Precautions and Explanation of Symbols

The exclamation point within an equilateral triangle is intended to alert the user to the presence of important installation, operation, and service instructions in this manual.

The lightning flash with arrowhead symbol within an equilateral triangle is intended to alert the user to the presence of uninsulated dangerous voltages within the enclosure that may be of sufficient magnitude to constitute a risk of electrical shock to the user.

Please read this Manual thoroughly before attempting to install, configure, or operate the XPA-200 power amplifier. After successful installation and configuration of the XPA-200, be sure to retain this manual in a safe place for future reference.

Safety is a key component to a long lasting and trouble free installation. Please read and follow all instructions and heed all warnings on the XPA-200 and in this manual. The vast majority of the subsequent safety precautions are common sense. If you are not comfortable with the installation of audio/video entertainment equipment, you should seek the services of a qualified installation professional or call us for help.

WARNING: TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT USE THE XPA-200 NEAR WATER OR IN WET LOCATIONS, DO NOT EXPOSE IT TO RAIN OR MOISTURE, DO NOT EXPOSE IT TO DRIPPING OR SPLASHING FROM OTHER SOURCES, AND ENSURE THAT NO OBJECTS FILLED WITH LIQUIDS (SUCH AS VASES) ARE PLACED ON IT. DOING SO MAY RESULT IN DAMAGE TO THE UNIT AND THE RISK OF ELECTRIC SHOCK, WHICH MAY RESULT IN BODILY INJURY OR DEATH.

WARNING: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE THE COVER FROM THE XPA-200. THERE ARE NO USER-SERVICEABLE PARTS INSIDE THE UNIT. REFER ALL SERVICE TO QUALIFIED SERVICE PERSONNEL.

Do not install the XPA-200 near or above any heat sources such as radiators, heating vents, or other apparatus that produces heat. Do not block any ventilation openings or heat sinks. Avoid installing the unit directly above other heat-producing equipment unless sufficient ventilation or forced-air cooling is provided.

Do not install the XPA-200 in locations without proper ventilation. The XPA-200 should not be operated on a bed, sofa, rug, or similar surface that may block vents. The unit should not be installed in an enclosed location such as a bookcase, cabinet, or closed equipment rack unless sufficient forced-air ventilation is provided.

Always install your XPA-200 according to the manufacturer's instructions and only use attachments or accessories specified by the manufacturer.

Do not install the XPA-200 on any stand, shelf, or other piece of furniture that is unable to support its weight. If a cart is used to move the unit, use caution to avoid injury from tip-over.

Connect the XPA-200 only to power sources of the correct voltage (as shown in this manual and on the XPA-200 unit).

Protect power supply cables from being pinched, walked on, or otherwise damaged. Be especially careful where the power cable enters the power outlet and the unit.

Only connect the XPA-200 to an electrical outlet or extension cord of appropriate type and rating.

DO NOT defeat the safety purpose of a grounding or polarized plug by removing ground pins or using unsafe adapters. A polarized plug has two blades - one wider than the other. A grounding plug has a third ground prong in addition to the two main conductors. The wide blade or third groundling prong is provided for your safety. If the provided plug does not fit your outlet, consult an electrician to replace your obsolete outlet. If you replace the power cord, only use one of similar type and equal or greater current rating.

The power cable for the XPA-200 should be unplugged from the outlet during severe electrical storms, or when unused for a long period of time.

Only replace the fuse(s) in the XPA-200 with fuse(s) of proper value and voltage rating.

The XPA-200 should only be cleaned as directed in the Manual. Avoid spraying liquids directly onto the unit and NEVER spray liquids into the vents. Care should be taken so that small objects do not fall into the inside of the unit.

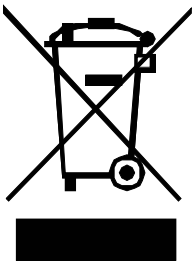
You should seek service for your XPA-200 by qualified service personnel if any of the following occur:

1. The power-supply cord or the plug has been damaged.
2. Objects or liquid have fallen or spilled into the vents.
3. The unit has been exposed to rain.
4. The unit exhibits a marked change in performance.
5. The unit has been dropped, or its enclosure or chassis is damaged.

NOTE: TO COMPLETELY DISCONNECT THE XPA-200 FROM THE AC POWER MAINS, DISCONNECT THE AC POWER CORD FROM THE AC RECEPTACLE.

NOTE: THE POWER CORD ON THE XPA-200 MUST REMAIN READILY ACCESSIBLE AT ALL TIMES.

CAUTION
CAUTION: TO REDUCE THE RISK OF ELECTRICAL SHOCK, DO NOT REMOVE COVER. NO USER SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.



XPA-200 Stereo Power Amplifier

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Introduction

Thank you for purchasing the new second generation XPA-200 stereo power amplifier.

The XPA-200 is perfect as the foundation of a truly superb stereo sound system, or to power the front main channels of an audiophile quality surround sound system. The XPA-200 delivers 150 watts per channel into 8 Ohms (or 240 watts per channel into 4 Ohms). The clean, well thought-out circuit topology handles subtle nuances with finesse, while the hefty power supply provides plenty of dynamic power for musical crescendos.

Inside, the XPA-200 boasts the advanced engineering, high quality components, heavy-duty toroidal transformer power supply, proven Class A/B technology, and comprehensive protection you expect from Emotiva. Outside, you get elegant Emotiva Gen2 styling, gold plated RCA unbalanced input jacks, and full-sized five-way binding posts. The new version of the XPA-200 includes some small but important improvements, including custom low-ESR storage capacitors in the power supply, and our new black trim.

We think it's a great sounding combination, and we're sure you'll agree.

Happy listening!

The Emotiva Team

About This Manual

This User Manual will provide you with the information you need to get started enjoying your XPA-200 stereo power amplifier.

We suggest that you read through the entire manual; we kept things as short and direct as possible. Even if you're an expert user, you will probably find some interesting information and useful suggestions.

If you're really in a hurry to get started, please read the Quick Start section (on page 9); you may then read the remainder of the manual at your leisure.

You may wish to keep a copy of this manual with your records, and record serial numbers or other purchase information on the Notes page at the back.

Features

The XPA-200 stereo power amplifier delivers true audiophile-grade sound quality, and is equally at home as the heart of a really superb stereo system, or running the front main speakers in a superb surround sound system.

The XPA-200 features our fully discrete, high-current, short signal path, class A/B output section, and all the advanced engineering and high quality construction you've come to expect from Emotiva. The XPA-200 offers you an economical way to experience the absolute best in audiophile sound quality.

Features offered by the XPA-200 include:

- **True audiophile-quality sound** - the XPA-200 was designed first and foremost to sound superb in both music and home theater systems.
- **Great sounding Class A/B topology and advanced engineering** - ensures smooth, detailed sound and incredibly natural imaging while maintaining efficient performance.
- **Heavy duty power supply with oversized toroidal transformer** - provides plenty of real power for demanding program material, and has plenty of reserves to deliver signal peaks without any sense of strain.
- **New low-ESR storage capacitors** - improve dynamics by making the power supply even more responsive to heavy power demands.
- **Totally stable** - designed for use in the real world, with real speakers.
- **Elegant Emotiva Gen2 styling** - looks great in any home theater rack or living room.
- **Low profile 2RU chassis** - makes it easy to find a home for the XPA-200 in a rack with your other fine equipment.
- **Full sized, five-way speaker binding posts** - allow you to use a wide range of speaker cables with bare wires, lugs, or banana plugs.
- **Solid machined gold-plated RCA input connectors** - provide a reliable connection with a wide variety of audio interconnects.
- **Top quality parts and construction** - promise you years of reliable service.
- **Remote trigger input and trigger output** - for turn on/off with trigger-enabled equipment.
- **Audiophile-grade fault protection** - entirely transparent under normal conditions, yet protects the amp and your other equipment from all common fault conditions.
- **Universal AC line voltage operation -** 115 VAC or 230 VAC (with automatic detection and switching).
- **Fully transferable five-year warranty** - ensures that you'll be able to enjoy your XPA-200 for years to come.

You can find more information about the Emotiva XPA-200 on our website at www.emotiva.com.

Unpacking

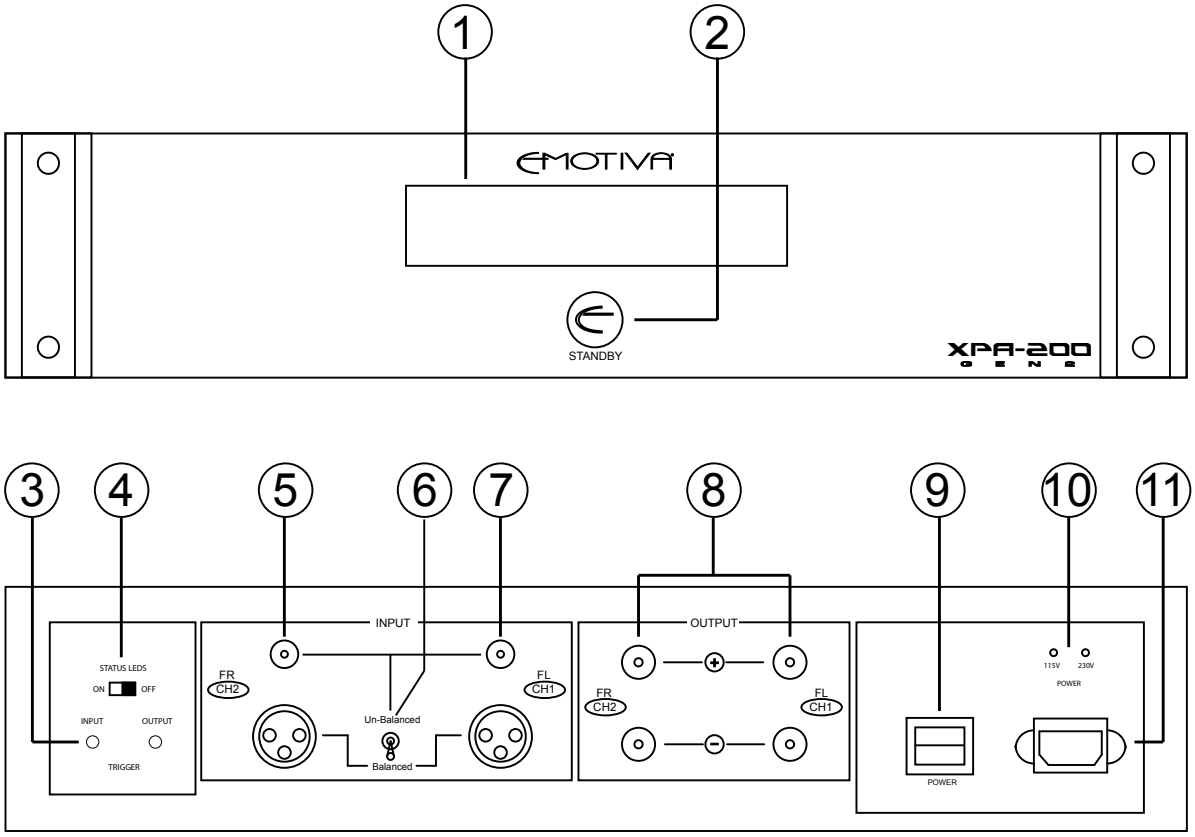
Your XPA-200 was carefully packed and should reach you in perfect condition. If you notice any shipping damage or other issues when you unpack it, please contact Emotiva immediately.

Gently remove your XPA-200 from the packing carton and remove all wrappings and shipping material.

It is important to save the box and all packing materials in case your power amp ever needs to be moved or shipped back to the factory for service.

We truly value customer feedback and would like to hear from you.

XPA-200 Front and Rear Panels



1. Status Display Window

This window houses four status LEDs (one red and one blue for each channel). When the XPA-200 is Off or in Standby mode, all LEDs will be unlit. When the XPA-200 is powered On, the two red LEDs will illuminate for a few seconds and then go out, at which point the two blue status LEDs will light. The blue LEDs will remain lit in normal operation. If a fault occurs, the red LED corresponding to the channel with the fault will flash and the blue LED will be extinguished.

Note: The Status LED switch on the rear panel disables the LEDs when set to Off.

2. Standby Button

Press to switch the amplifier On; press again to return to Standby; the halo ring around the button illuminates amber for Standby and blue for On.

3. Trigger Input and Trigger Output

The XPA-200 is switched On (from Standby) when a trigger signal is presented at the Trigger Input; the XPA-200 returns to Standby when the trigger signal is removed. When the XPA-200 is on, a 12 VDC signal is sent from the Trigger Output to control other devices.

4. Status LED Switch

Disables the front panel status LEDs when set to Off.

5, 7. Unbalanced (RCA) Inputs and Balanced (XLR) Inputs

Solid machined gold-plated RCA jacks (1 per channel) accept line level unbalanced inputs. Standard XLR connectors (1 per channel) accept line level balanced inputs.

6. Un-Balanced / Balanced Selector Switch

Switches between the Unbalanced (RCA) and Balanced (XLR) inputs for both channels. Up selects the Unbalanced inputs and Down selects the Balanced inputs. Only one type of input is active at once. (It is allowed to plug in both balanced and unbalanced sources and use the switch to select between them, but only one will be active at once.)

8. Speaker Terminals

Full-sized, five-way binding posts accept banana plugs, lugs, or bare wire.

9. AC Power Switch

Switches the mains AC power to the XPA-200 On and Off. When this switch is Off, no controls operate (the XPA-200 cannot be turned On from the front panel or by a trigger signal).

10. Input Voltage Indicator

The XPA-200 automatically detects and switches between 115 VAC and 230 VAC. These indicators tell you which line voltage the XPA-200 has detected.

11. IEC Power Cord Receptacle

Accepts a standard removable IEC AC power cable (a high-quality commercial power cable is included).

Quick Start

To get the most from your XPA-200, we urge you to read the entire manual. If you just can't wait to listen to it, this section will cover the basics you need to get started.

- Find a secure location for your XPA-200
- Connect your XPA-200 to a signal source.
- Connect your XPA-200 to a pair of speakers (4 ohm or 8 ohm) using reasonably heavy gauge speaker wires (at least 18 gauge).
- Find some music you *really* like to listen to.
- Turn on the AC Power switch and turn up the volume a bit!
- Enjoy!

While you're enjoying your XPA-200, it would be a great time to read the rest of the manual to learn more about it.

Connections

Connecting speakers to your XPA-200

Your XPA-200 has no special connection requirements; five-way binding posts are provided for connecting one speaker to each channel.

- **Always** turn off the amplifier before connecting or disconnecting speaker cables or signal source interconnects.
- **Always** verify that your speaker cables are firmly attached, and not shorted to each other or to any other cables, before powering up your XPA-200.
- **Always** use high-quality speaker wire; 18-gauge or heavier.
- If you must use thinner wire, try to keep the length as short as possible.
- Be careful to wire all speakers "in phase" (the plus/red terminal on each speaker to the plus/red terminal on your amp).
- Try to use wires of equal length and gauge for both speakers in each pair (use the same gauge and length for both fronts, or for both surrounds; don't use a long 16-gauge wire for one speaker and a short 10-gauge wire for the other).
- If you use stranded cables, use care to avoid short circuits (from stray strands touching).
- Emotiva offers very high-quality, pre-made speaker cables at reasonable prices. You will find them in the Interconnects section of our website at www.emotiva.com.

Connecting an input source to your XPA-200

Your XPA-200 amplifier has both balanced (XLR) and unbalanced (RCA) inputs for each channel; a switch selects which input is active. Be sure to set this switch correctly. If your source component offers both types of outputs, a balanced connection is generally preferred, especially for long cable runs and in noisy environments. We suggest using reasonably high quality cables, keeping cables no longer than necessary, and avoiding running signal cables near power cables and speaker cables whenever possible.

DO NOT connect a digital signal to the inputs of your XPA-200 (or you may damage it or your speakers).

Connecting the Trigger Input and Trigger Output

The Trigger Input accepts a 12 VDC (nominal) trigger signal from another device via a standard 1/8" mono plug. When the trigger is asserted, the XPA-200 will switch On; when the trigger is removed, the XPA-200 will return to Standby mode. The Trigger Output sends out 12 VDC whenever the main power to the XPA-200 is On (and NOT when it is in Standby mode) which can be used to switch on other units with trigger capabilities.

Configuration and Operation

Line Voltage

The XPA-200 can operate from line voltages of 115 VAC +/- 10% or 230 VAC +/- 10%. The amplifier will automatically detect which line voltage it is connected to and configure itself accordingly. The Line Voltage indicators will tell you which line voltage the XPA-200 has detected.

AC Power Switch (rear panel)

The rear-panel AC Power switch controls the main AC power for your XPA-200. When this switch is in the Off position, the amplifier will not operate. Turning it On will put the XPA-200 into Standby mode.

Standby Switch (front panel push button)

Press to switch the amplifier On; press again to return to Standby; the halo ring around the button illuminates amber for Standby and blue for On.

Un-Balanced / Balanced Selector Switch

Switches between the Unbalanced (RCA) and Balanced (XLR) inputs for both channels. Up selects the Unbalanced inputs and Down selects the Balanced inputs. Only one type of input is active at once. (It is allowed to plug in both balanced and unbalanced sources and use the switch to select between them, but only one will be active at once.)

Status LED Switch

Disables the front panel status LEDs when set to Off.

Trigger

When a trigger cable is connected to the Trigger Input (on the rear panel), and a trigger signal is received (between 5-20 V - AC or DC), the XPA-200 will switch from Standby to On; when the trigger signal ceases, the XPA-200 will return to Off.

The trigger is typically connected to the preamp or pre/pro that provides a signal source for the XPA-200, and set to turn the XPA-200 on when the preamp or pre/pro is turned on.

Whenever the XPA-200 is On, the Trigger Output will assert a 12 VDC signal, which may be used to turn on other equipment.

Care and Maintenance

Periodic Maintenance

Your XPA-200 requires no periodic maintenance or calibration.

Cleaning your XPA-200

- If necessary, the XPA-200 should be cleaned gently with a soft rag.
- If something sticky gets on the front panel or case of the XPA-200, it should be cleaned with a mild cleaning solution applied to a soft rag, followed by wiping with a clean rag dampened with plain water and drying with a soft dry rag or cloth.

Note: DO NOT spray water or cleaning solution directly onto the XPA-200 or into the vents.

Specifications

Topology:

Fully discrete, dual differential, high current, short signal path Class A/B.

Number of Channels:

2

Power Output (rated power; THD < 1%):

150 watts / channel; into 8 Ohms; both channels driven.
240 watts / channel; into 4 Ohms; both channels driven.

Rated Power Bandwidth (at rated power; 8 Ohm load):

20 Hz to 20 kHz + / - 0.045 dB.

Minimum Recommended Load Impedance:

4 Ohms (which equals one 4 Ohm load or two paralleled 8 Ohm loads).

Frequency Response:

10 Hz to 80 kHz (+ 0 / - 1 dB).

THD + noise:

< 0.02%

Signal to Noise Ratio (8 Ohm load):

> 89 dB at 1 watt (A-weighted).

> 110 dB at rated power (A-weighted).

Damping Factor (8 Ohm load):

> 500

Speaker Output Connections:

Full-sized, 5-way binding posts; one pair per channel (two channels).

Power Supply:

90,000 uF of storage capacitance.
360 VA heavy duty toroidal transformer

Input Sensitivity (for rated power; 8 Ohm load):

1100 mV.

Gain:

29 dB.

Input Connections:

Unbalanced (RCA); balanced (XLR); one each per channel.

Input Impedance:

47 kOhms.

Trigger:

Trigger Input: 5 - 20 V (AC or DC); <10 mA input current required.
Trigger Output: 12 VDC; can drive any load up to 50 mA.

Power Requirements:

115 VAC or 230 VAC +/- 10% @ 50 / 60 Hz (automatically detected and switched).

Front Panel Controls and Indicators:

Standby; push button (halo ring changes color to indicate Standby or On).
Status LEDs (four); blue LEDs illuminate for normal operation, red LEDs flashes during power-on or when a fault occurs; (may be disabled by rear panel Status LED switch).

Rear Panel Controls:

AC Power switch; rocker switch (switches AC mains power).
Status LEDs switch; small slide switch on left (disables front panel Status LEDs and dims. Standby button halo lighting).
Input selector; toggle switch (selects between balanced and unbalanced inputs).

Protection:

The XPA-200 is protected against excessive operating temperature, shorted speaker connections, ground faults, and other common fault conditions.

Dimensions:

17" wide x 3.875" high x 19" deep (includes feet and binding posts).

Weight:

31 pounds unboxed (37 pounds boxed).

Troubleshooting

The XPA-200 is carefully designed and manufactured from high-quality precision components to ensure years of trouble free operation. We really doubt you'll ever have any problems with your XPA-200 but, if you do, here are a few things you could try:

Problem: No output (nothing is lit).

Reason: You have no AC power.

- Verify that the rear panel AC Power switch is On.
- Verify that your circuit is live.
- Verify that the line cord on the XPA-200 is fully inserted and is tight.

Problem: The XPA-200 is operating normally, but none of the front panel status LEDs are lit.

Reason: The front panel status LEDs are turned off.

- Set the Status LED switch on the rear panel to On.

Problem: No sound or distorted sound is heard; the Standby button halo is lit blue; both status LEDs are lit blue.

Reason: The XPA-200 is not indicating a Fault condition.

- Check your source.
- Check your speakers and speaker connections.

Problem: No sound is heard; one or both status LEDs are flashing red.

Reason: The XPA-200 is in Protect mode, which indicates a Fault condition.

- Switch the rear panel AC Power switch Off and On to clear the Fault condition.
- If the fault remains, look for a shorted speaker cable or damaged speaker.
- Check your sources and source connections (a bad interconnect, DC on the input, or an otherwise bad source component can cause a fault).

Problem: The halo around the Standby button is lit amber and the XPA-200 fails to come on when triggered.

Reason: The XPA-200 is in Standby mode and should respond to a valid trigger signal.

- Check your trigger cable.
- Check the trigger settings on your source equipment.

Emotiva Audio Corporation Five-Year Limited Warranty

What does this warranty cover? Emotiva Audio Corporation ("Emotiva") warrants its products against defects in materials and workmanship.

How long does this coverage last? This warranty commences on the date of retail purchase by the original retail purchaser and runs for a period of five years thereafter. This warranty is transferable to any person that owns the warranted product during the Term. Emotiva warrants any replacement product or part furnished hereunder against defects in materials and workmanship for the longer of the following: (i) the amount of time remaining under the original warranty, or (ii) 120 days from your receipt of the repaired or replaced product. The duration described in the previous 2 sentences is hereinafter referred to as the "Term". TO THE FULLEST EXTENT PERMITTED BY LAW, ALL IMPLIED WARRANTIES RELATED TO THE ORIGINAL PRODUCT AND ANY REPLACEMENT PRODUCT OR PARTS (INCLUDING IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE) ARE EXPRESSLY LIMITED TO THE TERM OF THIS LIMITED WARRANTY. SOME STATES DO NOT ALLOW LIMITATIONS ON HOW LONG AN IMPLIED WARRANTY LASTS, SO THE ABOVE LIMITATION MAY NOT APPLY TO YOU. A claim under this warranty must be made by you within the Term. A claim shall not be valid (and Emotiva has no obligation related to the claim) if it is not made within the Term and if it is not made in strict compliance with the requirements of the "How do you get service?" section.

What will Emotiva do? Emotiva will, at its option, either: (i) repair the product, or (ii) replace the product with a new consumer product which is identical or reasonably equivalent to the product. Emotiva may provide you with a refund of the actual purchase price of the product in the event (i) Emotiva is unable to provide replacement and repair is not commercially practicable or cannot be timely made, or (ii) you agree to accept a refund in lieu of other remedies hereunder. When a product or part is repaired or replaced, any replacement item becomes your property and the replaced item becomes Emotiva's property. When a refund is given, the product for which the refund is provided must be returned to Emotiva and becomes Emotiva's property.

What is not covered by this warranty? This warranty does not apply: (i) to damage caused by use with non-Emotiva products, where the non-Emotiva product is the cause of the damage; (ii) to damage caused by service or maintenance performed by anyone who is not a representative of Emotiva; (iii) to damage caused by accident, abuse, misuse, flood, fire, earthquake or other external causes; (iv) to a product or part that has been modified after its retail purchase, where the modification caused or contributed to the damage; (v) to consumable parts, such as batteries; or (vi) if any Emotiva serial number has been removed or defaced and Emotiva cannot otherwise confirm that you are the original retail purchaser. EMOTIVA SHALL NOT BE LIABLE FOR ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING FROM OR RELATED TO ANY DEFECTS IN OR DAMAGES TO ITS PRODUCTS. SOME STATES DO NOT ALLOW THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THE ABOVE LIMITATION OR EXCLUSION MAY NOT APPLY TO YOU.

How do you get service? In order to make a claim under the warranty, you must:

1. Call a customer service representative ("CSR") of Emotiva at 1-877-EMO-TECH (1-877-366-8324). Provide the CSR with a description of your problem and the serial number of the product for which the warranty claim is being made.
2. The CSR will provide you with a returned material authorization number ("RMA").
3. Ship the product to Emotiva at the following address, with the RMA written in large, bold numbers on the outside of the box, and with the letters "RMA" written before the number. Parcels arriving without an RMA number on the outside of the box will be refused.

Emotiva Audio Corporation
Attn: Repair Department
139 Southeast Parkway Court
Franklin, TN 37064

How does state law apply? This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

Accessories

Speaker cables

Using high-quality speaker cables and audio interconnects will ensure that you get the best sound quality and maximum reliability from your XPA-200 amplifier and the speakers connected to it. Emotiva Audio offers high-quality speaker cables and audio interconnects that feature solid engineering, premium build quality, excellent performance, and reasonable cost (you will find them on our website at www.emotiva.com)

Rack mount brackets for the XPA-200 are available in the accessories section of our website at www.emotiva.com

Notes

All information contained in this manual is accurate to the best of our knowledge at the time of publication. In keeping with our policy of ongoing product improvement, we reserve the right to make changes to the design and features of our products without prior notice.

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